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NATIONAL DEFENSE UNIVERSITY

JOINT FORCES STAFF COLLEGE

JOINT ADVANCED WARFIGHTING SCHOOL



**MAKE THE SQUADRON GREAT AGAIN: RETHINKING THE USAF INDUSTRIAL
AGE STRUCTURE TO BUILD MISSION-CENTERED UNIT COHESION**

by

Dawson A. Brumbelow

Lt Col, USAF

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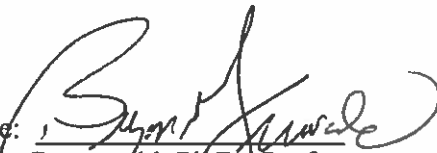
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Abstract

The USAF is undergoing a widespread retention problem. Although the pilot shortage has been the most publicized issue, the USAF is suffering retention problems in 49 other career fields. Understanding why these Airmen chose to leave has confounded USAF senior leaders for years. Surveys, interviews, and climate assessments aimed at exposing the underlying factors driving poor retention have revealed high administrative and additional duty workloads, under-manning, decreased readiness, a decreased emphasis on warfighting, disconnection from the operational mission, and a decline in mission support and sustainment. From a broader perspective, the USAF retention problem is a lagging indicator of an underlying, widespread depression in morale.

Unfortunately, USAF efforts to address retention through cash incentives betrays a misunderstanding of deeper issues. Considering that the USAF retention problem is the manifestation of decreased morale, and the lure of monetary incentives is a rational, cost-benefit decision, the problem-solution mismatch exposes a critical disconnect: one cannot improve morale simply by buying someone off. Since morale is a psychological phenomenon, the solution should come from application of psychological principles.

This thesis examined USAF organizational structure below the wing level from a group dynamics perspective to explain the sources of friction between groups and the resulting impact on morale. The analysis exposed misaligned unit cohesion, complicated by in-group bias and outgroup derogation. The analysis suggests several organizational changes that will enhance unit cohesion and strengthen the Airmen's sense of purpose. Although this research focused on the USAF, the core principles of group cohesion and the logic of analysis are transferable to other components and can also inform joint training concepts to enhance group cohesion within the joint force.

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Chapter 1—Introduction

Over the past two decades, the USAF has struggled to retain its Airmen. Although the 30% manning reduction in the years since Operation DESERT STORM initially masked the problem, recent USAF efforts to increase end strength to 326,000 and beyond have highlighted poor retention as a critical strategic challenge.¹ The pilot career field, the most publicized shortage, witnessed a 1,555 shortfall in 2016, is expected to top 2,000 in 2017, and has garnered the attention of Congress. However, the retention problem is not limited to pilots. Many other career fields are also experiencing significant shortages. Each quarter, the USAF compiles a list of all stressed career fields (~20% or greater manning shortfall).² The USAF's Fall 2017 list identified 50 stressed career fields, including intelligence, cyber, and, most critically, aircraft maintenance, which is short 3,500 personnel and worsening.³ The USAF is experiencing the departure of valuable Airmen representing years of investments in training and development. Understanding why these Airmen chose (and continue to choose) to leave has confounded USAF senior leaders for years.

Many suggest the civilian job market and the stability that it offers Airmen and their families is a major factor, while others suggest it is the operational tempo; still

¹ General Larry Spencer (ret.), "Air Force Pilot Shortfall is Dangerous for the US," Defense News <https://www.defensenews.com/air/2017/08/07/air-force-pilot-shortfall-is-dangerous-for-the-us-commentary/> (accessed September 17, 2017). General Larry Spencer is the former Vice Chief of Staff of the Air Force.

² Rod Powers, "Air Force Jobs in Demand: When Careers are on the Stressed List," The Balance website, <https://www.thebalance.com/air-force-jobs-4052612> December 11, 2017 (accessed December 26, 2017). The USAF describes career field stress in terms of manpower, manning, and deployments. The methodology expresses shortfalls as the workload required by assigned personnel. For example, a stress level of 1.0 indicates no shortfall (assigned, home station personnel do the work of a single Airmen). A 1.5 stress level indicates an undermanned home station situation in which each Airmen does the work of 1.5 Airmen. Likewise a 0.8 stress level indicates an overmanned situation in Airmen only do the work of 0.8 Airmen, and so forth (excessive overmanning can result in diminished proficiency due to fewer opportunities to perform duties). The USAF goal is not to exceed a 1.2 stress level.

³ Powers, "Air Force Jobs." Spencer, "Air Force Pilot Shortfall."

others point to seemingly illogical personnel policies and decisions.⁴ No doubt these factors play varying roles in Airmen's retention decisions. In fact, surveys, interviews, and climate assessments aimed at exposing underlying factors driving poor retention have revealed high administrative and additional duty workloads, a decreased emphasis on warfighting, decreased readiness, under-manning, disconnection from the operational mission, and a decline in mission support and sustainment.⁵ From a broader, cross-functional perspective, the USAF retention problem is a lagging indicator of an underlying, widespread depression in morale.

Unfortunately, USAF efforts to address poor retention through cash bonuses and incentives reflect a very shallow approach to the problem and betrays a misunderstanding of its deeper issues. Considering that the USAF retention problem is the manifestation of decreased morale, and the lure of monetary incentives is a rational, cost-benefit decision, it should be no surprise that morale continues to plummet. Comparing the problem-solution mismatch in this way exposes the critical disconnect: one cannot improve morale simply by paying someone more. Since morale is a psychological phenomenon, the solution should come from the application of psychological principles and a further understanding of what enhances effective morale in a unit.

Although definitions of "morale" vary depending on the context in which it used, morale is used here in a military sense, applicable equally across the continuum of conflict (from peacetime through high intensity warfare). It is often thought of as a

⁴ Christopher M. Carson, "I Hear What You're Saying: Analysis of USAF Rated Officer Comments from the 2015 Military Career Decisions Survey," PhD diss., Pardee RAND Graduate School, 2017., 3, 31, 58, 92.

⁵ General David Goldfein, "Revitalizing the Squadron," memo to Airmen, 2016. U.S. Air Force, "CSAF Focus Area #1 Talking Points," AF Portal under Telling the AF Story, <https://cs2.eis.af.mil/sites/10463/CFA/Revitalize%20Air%20Force%20Squadrons/Revitalizing%20AF%20Squadrons%20Key%20Talking%20Points%20-%20Mar%2017.pdf> (accessed August 17, 2017).

condition or characteristic of a unit that emerges from its *collective* mental state as it relates to its shared purpose; for combat units, this would be its fighting spirit.⁶ While this conveys the idea that morale is essentially enthusiasm or confidence, it appears to avoid the notions of teamwork, trust, and mission-focus. Historian and essayist Paul Fussell offers a more complete definition that addresses these nuances:

prevailing mood and spirit, conducive to willing and dependable performance, steady self-control, and courageous, determined conduct despite danger and privations, based upon a conviction of being in the right and on the way to success and upon faith in the cause or program and in the leadership, usually connoting, esp. when qualified by the adjective high, *a confident aggressive, resolute, often buoyant, spirit of wholehearted co-operation in a common effort*, often attended particularly by zeal, self-sacrifice, or indomitableness.⁷

Despite the difficulty in measuring morale, Fussell's definition captures the aspects of unit morale resultant from easily measured factors like discipline, being properly trained and equipped (readiness), trust in leaders, and shared purpose or mission. Since morale describes a discrete group of people or unit; a deeper understanding of group dynamics suggests that it is the unit that lies at the core of the USAF's morale problem.

Over the past two decades, the USAF sub-wing level organizational structure has evolved into functionally-oriented units with no regard for unit cohesion both in garrison and during expeditionary operations. As a result, individual Airmen derive their social identity from their functional missions rather than operational missions. Thus, the

⁶ Frederick J. Manning, "Morale and Cohesion in Military Psychiatry," *Military Psychiatry: Preparing in Peace for War*. <http://www.cs.amedd.army.mil/borden/Portlet.aspx?ID=d11e2f62-c2ed-4535-a06e-219ec5fc4595> (accessed September 1, 2017). Manning provides a review of morale concepts settling on the following: "Morale is the enthusiasm and persistence with which a member of a group engages in the prescribed activities of that group." While this works for an individual, by slight modification, the morale of a unit is the collective enthusiasm and persistence of a group's members with which a group engages in the prescribed activities of that group.

⁷ Paul Fussell, *Wartime: Understanding and Behavior in the Second World War* (New York: Oxford University Press, 1989), 144. Emphasis added in italics.

USAF's underlying morale problem may stem in part from its basic organizational structure.

This thesis examines USAF organizational structure below the wing level from a group dynamics perspective to explain the sources of friction between groups and the resulting impact on morale. The application of group dynamics psychology concepts to the USAF sub-wing structure shows the source of USAF's morale problem results from misaligned unit cohesion, complicated by in-group bias and outgroup derogation. The analysis suggests several structural and manning changes that will enhance unit cohesion, strengthen desired identities, and enhance the Airmen's sense of purpose resulting in an increase in morale. Although this research will focus on the USAF, the core principles of group cohesion and the logic of analysis is transferable to other components and can also inform joint training concepts to enhance group cohesion within the joint force.

Impact of Status Quo

If the USAF fails to address the underlying causes of the downward spiral of its morale, its competitive advantage with respect to its potential adversaries is at risk. Considering the current and projected job market for pilots, the USAF is only reaching the forward edge of the tremendous bow wave of airline pilot needs. In fact, some estimates place the requirement for civilian pilots at 25,000 per year in the U.S. alone and over 600,000 worldwide for the next twenty years.⁸ Furthermore, incorporating maintenance and non-pilot aircrew, public job market vacancies reach over 1.4M.⁹ If the

⁸ Sasha Robinson, "Global Airline Pilot Recruitment and Hiring Forecast for 2015," Flight Deck Consulting, <https://www.flightdeckconsulting.com/global-airline-pilot-recruitment-and-hiring-forecast-for-2015/> (accessed September 30, 2017).

⁹ Boeing, "Extraordinary Demand for Pilots, Technicians, and Cabin Crew," Long Term Market 2016-2035, Boeing.com, <http://www.boeing.com/commercial/market/long-term-market/pilot-and-technician-outlook/> (accessed November 1, 2017).

USAF continues its incentives-based approach to retaining trained talent, it will likely get drawn into a bidding war with commercial carriers, a difficult situation once a USAF pilot reaches the completion of the current ten-year active duty service commitment (ADSC). Furthermore, it takes ten years to replace a trained, seasoned pilot at that point. USAF leaders, including the Chief of Staff of the Air Force (CSAF), have asserted that the pilot shortage has become a national level issue raising concerns about the ability to deliver airpower in support of national security objectives.¹⁰ Moreover, considering the USAF identified 50 stressed career fields in Fall 2017, retention concerns extend well beyond the pilot career field.

Compounding the civilian job market siphon of USAF personnel is the unknown effect the new DoD retirement system will have. Instead of requiring a full 20-year term of service in order to draw a retirement, Airmen can now retain a portion of their retirement at the conclusion of their commitment. The lure of the civilian job market will no longer compete with the 20-years of service required to receive retirement benefits. In essence, the new retirement system will make the decision to leave service easier for Airmen, particularly pilots with plenty of lucrative civilian flying opportunities. The USAF simply cannot predict how pilots will behave under these new conditions. This uncertainty makes solving the underlying retention problem even more pressing as the status quo is unsustainable.

In the chapters that follow, this thesis provides the necessary background in turnover behaviors, group dynamics, and cohesion to inform the methodology to analyze USAF sub-wing level organizational structure. In Chapter Three, analysis of USAF unit

¹⁰ Carla Babb, "US Air Force Pilot Shortage Grows to About 2,000," Voanews.com, November 9, 2017, <https://www.voanews.com/a/air-force-pilot-shortage-grows/4109202.html> (accessed December 26, 2017).

cohesion begins with an examination of how a USAF airman's identity forms and what factors mark the boundaries of their group identity. This identity and group development is then applied to a generic sub-wing level organizational structure (group organizations and below) to identify seams and friction points in in-group bias/outgroup derogation. Next, the analysis examines the cross-functional mix of personnel within a squadron to identify functional gaps within the squadron. Finally, in Chapter Four, the seams, friction points, and functional gaps provides suggested changes to organizational structures and manning to strengthen cohesion at the unit level.

Chapter 2—Background and Methodology

Understanding the USAF retention problem first requires a general understanding of turnover and retention, how these apply to members of the military, and how these concepts relate to morale, group dynamics, and cohesion. Researchers have studied turnover extensively across sectors of the civilian workforce; however, there is limited research specifically focused on the military. Most of the military research centers on the rational, utility-oriented decision-making process on the part of the military member, while ignoring psychological aspects that are difficult to quantify. Understanding retention and turnover provides a common frame of reference to describe the factors underpinning the USAF retention problem and how they relate to unit cohesion.

Turnover Behaviors and Factors

Employee turnover studies have evolved from early models that emphasized job satisfaction and focused on the decision-making process driving employees to leave an organization to more recent models that incorporate why employees choose to remain.¹ In 2001, Mitchel et. al. introduced a new construct, “job embeddedness,” which incorporated the extent of an individuals’ links to others, their “fit” within the organization, and what they felt they would lose if they left.² Furthermore, while turnover takes many forms, there are two broad categories: voluntary and involuntary. Human

¹ James G. March and Herbert A. Simon, *Organizations*, [New York: Wiley, 1958]; William H. Mobley, “Intermediate Linkages in the Relationship Between Job Satisfaction and Employee Turnover,” *Journal of Applied Psychology* 62, no. 2 (1977); James L. Price and Charles W. Mueller, “A Causal Model of Turnover for Nurses,” *Academy of Management Journal* 24, no. 3 (September 1981); Thomas W. Lee and Terence R. Mitchell, “An Alternative Approach: The Unfolding Model of Voluntary Employee Turnover,” *Academy of Management Review* 19, no. 1 (January 1, 1994).

² Terence R. Mitchell, Brooks C. Holtom, Thomas W. Lee, Chris J. Sablinski, and Miriam Erezl, “Why People Stay: Using Job Embeddedness to Predict Voluntary Turnover,” *Academy of Management Journal* 44, no. 6 (December 2001).

resources processes, medical discharges, and force structure reductions, all centerpieces of involuntary turnover, lay outside the scope of employee retention. Thus, this analysis focuses on voluntary turnover.

Analysis of voluntary turnover revealed several subsets of employee turnover preferences categorized as enthusiastic stayers, reluctant stayers, reluctant leavers, and enthusiastic leavers; moreover, various motivational forces affect these types.³ Recent studies have focused on retention as a subset of turnover and have suggested additional factors influencing retention behaviors beyond simply job satisfaction. Maertz and Griffeth identified eight motivational forces that drove retention: affective (job satisfaction), alternative (opportunities), normative (meeting others' expectations), constituent (attachment to coworkers), contractual (psychological obligation to remain), behavioral (explicit and psychological costs), calculative (perceived future utility of staying), and moral/ethical (norms which drive retention).⁴

Pilot Retention Survey Analysis

The first to recognize retention problems tend to be the career field managers within functional communities. Since decisions affecting career fields generally occur along functional lines, USAF senior leaders have generated solutions aimed directly at specific tactical problems within functional communities. This is most pronounced in the pilot community.

³ Junchao Jason Li, Thomas W. Lee, Terence R. Mitchell, Peter W. Hom, Rodger W. Griffeth, "The Effects of Proximal Withdrawal States on Job Attitudes, Job Searching, Intent to Leave, and Employee Turnover," *Journal of Applied Psychology* 101, no. 10 (October 2016) 1436-1456.

⁴ Carl P. Maertz and Rodger W. Griffeth, "Eight Motivational Forces and Voluntary Turnover: A Theoretical Synthesis with Implications for Research," *Journal of Management* 30, no. 5 (October 2004) 667-683.

Although the USAF has not struggled with recruiting men and women into Undergraduate Pilot Training (UPT), success in retaining pilots has proven elusive once they complete their 10-year training commitment.⁵ On the surface, the current pilot shortage resulted from the combined effects of insufficient inflow (initial training pipeline capacity and absorption) and excessive outflow (insufficient retention).⁶ In other words, pilots are leaving the USAF faster than the training system can replenish. However, there is more to the equation than just numbers. Since UPT incurs a 10-year ADSC and UPT lasts approximately two years, a pilot's ADSC expires at the 12-year mark. Thus, the retention problem for pilots begins at the 12-year mark.

Unfortunately, USAF leaders see the solution as a simple math problem: incentivize retention in order to reduce the separation rate below the production rate. In a March 2017 hearing before the House Armed Services Committee's military personnel subcommittee, the USAF Deputy Chief of Staff for Manpower and Personnel Services summarized the current approach to close this gap: "reduce requirements, increase production, and increase retention."⁷ Furthermore, the strategy to increase retention

⁵ U.S. Department of the Air Force, *Air Force Instruction 36-2107: Active Duty Service Commitments*, April 30, 2012, 6, Table 1.1. The Active Duty Service Commitment (ADSC) incurred upon completion of Undergraduate Pilot Training increased from eight years to ten years in 1999.

⁶ U.S. Department of the Air Force, *Air Force Instruction 11-412: Aircrew Management*, December 10, 2009. Absorption is defined as "the process of accessing new undergraduate flying training (UFT) graduates and/or prior qualified (e.g., FAIP, OSA) aircrews, by career field (i.e., Pilot; CSO/Nav/EWO/WSO; ABM; CEA) into operational unit line flying positions for their first operational assignment." The health of a flying unit incorporates readiness, proper experience mix (sufficient instructors and evaluators to provide upgrade training, remedial training, and training validation), and seasoning rate (hours per crewmember per month in order to meet upgrade training timelines) among others. There are several formulas associated with absorption calculations, but the goal is to "absorb the required number of new aircrews while maintaining at least the minimum unit readiness posture of experience mix, average time on station, and manning levels required to meet operational taskings/commitments." Absorption varies by aircraft, due to force structure crew complement, and crew ratio.

⁷ Karen Parrish "Congress Probes Military Pilot Shortage," DoD News, Defense Media Activity. Mar 2017.

continues to focus on immediate quality of life issues and monetary incentives.⁸ The flaw in this approach is that while it addresses the pilot shortage in relation to the civilian market for trained pilots, it ignores the underlying factors driving poor retention behavior across the career fields.

In a 2017 dissertation, Christopher M. Carson analyzed USAF Rated Officer Comments from the 2015 Military Career Decisions Survey. He underscored three recurring themes across turnover studies: individual (demographic differences), organizational (pay, promotions, supervisor support, job stress), and attitudinal (job satisfaction, organizational commitment, and embeddedness).⁹ Furthermore, in his analysis of pilot survey results, Carson found that individual and organizational factors, while present, figured weakly in turnover intentions whereas attitudinal factors tended to be stronger factors.¹⁰ In other words, the pilots' self-reported comments regarding their own retention centered more on job satisfaction, psychological attachment to the organization, and fit within the organization than demographics, pay, promotions, job stress, and supervisors.

Admittedly, job satisfaction results cannot reflect other career fields; however, it is important to note that embeddedness (an employee's fit within an organization) and organizational commitment (an employee's psychological attachment to the organization) reflect broad experiences beyond the employee's specific job or function. It is possible that only pilot retention suffers from weak embeddedness and organizational commitment; however, as discussed, the USAF is suffering retention problems in 49

⁸ Parrish "Congress Probes."

⁹ Christopher M. Carson, "I Hear What You're Saying: Analysis of USAF Rated Officer Comments from the 2015 Military Career Decisions Survey," PhD diss., Pardee RAND Graduate School, 2017, 14-19.

¹⁰ Ibid., 14-17.

other career fields to varying degrees. To be clear, there are no published survey data reflecting the retention decisions of career fields other than pilots. However, it is the author's experience (a non-pilot aircrew member and former flying squadron commander) that weak embeddedness and weak organizational commitment drives many retention decisions outside the pilot career field. Although Carson's analysis focused on pilot survey results, in the areas of embeddedness and organizational commitment, this thesis assumes some commonality across career fields since these concepts extend beyond job or function. Carson's analysis uncovered several themes shared by pilots from all USAF communities: a sense of being valued, family sacrifice, mission focus, senior leadership, and pilot bonus.¹¹ Furthermore, he contends policies aimed at pilot retention "should be made to apply equally across all AFSCs" and cautions against exacerbating the differences between them.¹²

It's all about the money...or is it?

On the surface, examination of the labor market revealed that wages outside the USAF for similarly skilled labor are comparable, or higher, than those offered by Department of Defense (DOD) pay charts. The USAF has attempted to address these disparities through targeted bonuses and incentive pays aimed at specific year groups and career fields where retention is poor. However, the 2015 Military Career Survey results showed that airline jobs are a factor in pilots' decisions; furthermore, they do not view the bonus as enough incentive to remain, rather it is payment for a decision those

¹¹ Carson, "I Hear What You're Saying," 51.

¹² Ibid., 51.

choosing to remain have already made.¹³ Thus, the bonus is a factor, but ultimately an incomplete solution to the pilot retention problem. Moreover, Carson adds that military studies have a “tendency to overlook difficult to measure factors such as attitudes toward senior leadership, perceptions of missions, deployments or ops tempo.”¹⁴ He summarizes the survey’s responses regarding the impact of money on retention as follows:

Money: in general, all groups talk about money in two ways. First, they mention that money ... is not competitive with the potential gains found in the civilian sector, or the money does not offset the implied negatives (e.g., guaranteed 365 [day] deployments, loss of individual control, and poor quality of life) they assume they will have to endure. They also express the idea that service is not about money; they care more about intangibles such as meaning, purpose, respect, and the quality of life in the USAF.¹⁵

Indeed, purpose, respect, and attitudes toward leadership are recurring themes in much of the current literature on leadership. In *Start With Why*, global best-seller Simon Sinek uses examples from the Wright Brothers to Martin Luther King Jr. to examine the power of infusing a sense of purpose in the people one leads.¹⁶ Similarly, in *The Speed of Trust*, world-renown consultant Stephen M. Covey captures the importance of trust and how to strengthen it among the members of an organization and their leaders.¹⁷ Considering the concerns raised in the survey, it would seem the USAF has a leadership problem.

In fact, the USAF recognized this several years ago and took significant steps to address it. Through the Profession of Arms Center of Excellence (PACE), the USAF has incorporated these concepts skillfully into several programs designed to enhance human

¹³ Carson, “I Hear What You’re Saying,” 44.

¹⁴ Ibid., 20.

¹⁵ Ibid., 57.

¹⁶ Simon Sinek, *Start With Why: How Great Leaders Inspire Everyone to Take Action*, (New York: Penguin, 2009).

¹⁷ Stephen M. R. Covey, *The Speed of Trust*, (New York: Free Press, 2006).

capital and develop leaders more effectively by training them how to strengthen the commitment, loyalty, and trust of their team--not only how to identify cultural and climate issues at the unit level, but also how to address them.

Since its inception in 2014, PACE has delivered its Enhancing Human Capital course to well over 50,000 Airmen (including virtually all new squadron commanders Air Force-wide since 2015) and built a trove of online, on-demand content for leaders at the unit level. Furthermore, at the direction of the commander of Air Education and Training Command (AETC), PACE spearheaded a capstone event at USAF basic training called Airmen's Week designed to begin the transition from trainee to Airman through a series of roundtable discussions of ethical dilemmas they will likely face as first term airmen.¹⁸ Only time will tell if these professional development initiatives will bear fruit; however, it is clear the USAF is tackling the leadership issue head-on. Unfortunately, the problem and solutions are much deeper. Developing effective leaders and building a strong culture and climate of dignity and respect are limited by the structure of the organization in which Airmen find themselves. Uncovering the limitations of leadership and culture to address the problem created by the sub wing-level organizational structure requires a grounding in the psychology of group dynamics.

Group Dynamics Psychology

Fundamentally, all behaviors begin as a decision and decisions take place in the mind of the individual. Because trained Airmen represent an investment in time and

¹⁸ Staff Sgt. Marissa Garner, "Airman's Week Marks One Year Anniversary," AETC.AF.MIL, <http://www.aetc.af.mil/News/Article-Display/Article/701841/airmens-week-marks-one-year-anniversary/> (accessed November 20, 2017).

resources, the USAF seems content addressing poor retention behavior as a rational, cost-benefit analysis between remaining in the USAF and leaving for the civilian workforce. The USAF's concept is that everyone has a price--they may not *want* to stay (reluctant stayers), but the incentives are just too lucrative to pass up. With these conditions in mind, one must ask if this is a sound foundation on which to continue to build and sustain a warfighting force.

Research has shown that humans have an innate desire to be part of some purpose greater than themselves.¹⁹ When individuals like who they are when they are part of a specific group, they tend to choose to remain part of that group.²⁰ A major factor in this condition is morale. Since morale is a condition of human psychology, and unit morale is the aggregate morale of the individuals of the unit, the core solution must address what Airmen experience at the unit level. Although the quality of a unit's morale results from its readiness level, operational tempo, culture, and climate, it is bounded and constrained by the size, shape, and purpose of the unit. As that greater purpose diminishes in importance in the minds of its individuals, logically, the upper boundaries of morale decrease.

One of the statutory roles of the Secretary of the Air Force is to organize the Department of the Air Force in order to execute the USAF mission to fly, fight, and win, in air, space, and cyberspace.²¹ Since warfighting is a human endeavor and humans are social animals, understanding how humans behave as part of a group and how individuals

¹⁹ Dirk van Dierendonck, "Servant Leadership: A Review and Synthesis," *Journal of Management* 37, issue 4 (July 2011): 1228-1261.

²⁰ K.L. Dion, "Group Cohesion: From 'Field of Forces' to Multidimensional Construct," *Group Dynamics: Theory, Research, and Practice* 4 (2000): 17. Department of the Air Force, "Enhancing Human Capital," Profession of Arms Center of Excellence course.

²¹ U.S. Code 10 § 8013, "Secretary of the Air Force;" "Air Force Mission," Airforce.com, <https://www.airforce.com/mission> (accessed September 8, 2017).

in groups relate to others is fundamental to understanding how effective these groups are in carrying out the USAF mission.²²

Group Formation

The first key concept in understanding group behavior is understanding what is meant by a “group.” A group can form spontaneously in an unconstrained social environment or as the result of joining a defined organization; moreover, the boundaries of the group can be either internally derived based on perceptions of the individuals that comprise the group, or by an external factor or authority. Since this analysis focused on the organizational structure of the USAF, socially or internally derived groups are excluded in favor of group formation as it is defined by an external authority among two or more individuals with a shared purpose.²³

Additionally, an individual’s pride in a group is influenced not only by success of other members of the group, but also by proximity to the activity.²⁴ In other words, the further the individual (and by extension, the group) is from the operational mission it supports, the more disconnection the individual experiences with respect to operational mission success—people share less pride in mission success the further they are from the mission. Conversely, the closer an individual is to the operational mission, the more pride

²² The term “group” used in this thesis refers to “a number of individuals assembled together or having some unifying relationship” and should not be confused with the USAF doctrinal unit existing hierarchically above a squadron and below a wing. Merriam-Webster, online dictionary, “Group.” <https://www.merriam-webster.com/dictionary/group> (accessed September 9, 2017).

²³ Dion, “Group Cohesion,” 7–26.

²⁴ Matthias H.J. Gouthier, Miriam Rhein, “Organizational pride and its positive effects on employee behavior,” *Journal of Service Management* 22 Issue: 5, (2011): 633-649, <https://doi.org/10.1108/09564231111174988> (accessed September 1, 2017); Jessa McIntosh, “Linking Organizational Pride to Purpose,” *Employment Relations Today*, 37 (June 2010): 39–45. doi:10.1002/ert.20296 (accessed September 2, 2017).

one feels in mission success. In other words, the closer one is to success, the higher their prestige relative to those further from the activity of success. It follows that aircrew members experience a greater sense of pride in mission success due to proximity than non-aircrew members. Similarly, non-aircrew members of the operational flying unit experience a greater sense of pride due to proximity than those who are not part of the operational flying unit. Thus, the more remote and isolated that an individual or group is from the operational mission, the less they experience pride in mission success.²⁵

Cohesion

Cohesion is a principle concept in group formation. The group's cohesion reflects the psychological bonds that exist between the members of a group that bind them to one another and influence the resiliency of a group.²⁶ In fact, a group requires a degree of cohesion in order to exist and is strengthened based on the extent to which members of the group share the purpose, values, and beliefs.²⁷ Recalling that morale is the collective mental state of a group as it relates to its shared purpose, it is clear that morale and cohesion are strongly connected, if not virtually indistinguishable.²⁸ The higher a unit's

²⁵ Samuel A. Stouffer and Arthur A. Lumsdaine, *The American Soldier: Combat and Its Aftermath*, (Journal of the West, January 1, 1945). In his two-volume sociological study of World War II soldiers, Samuel Stouffer found that individuals in infantry and armor units developed stronger bonds and affinity with their organizations than those who were less proximate to warfighting.

²⁶ Artemis Chang and Prashant Bordia, "A Multidimensional Approach to the Group Cohesion-Group Performance Relationship," *Small Group Research* 32, Issue 4, (Aug 2016): 392.

²⁷ Dion, "Group cohesion," 7–26; Chang, "A Multidimensional Approach," 379 – 405. Group cohesion was a precursor to enhanced performance rather than a consequence of performance. Blake E. Ashforth, and Fred Mael, "Social Identity Theory and the Organization," *Academy of Management Review* 14, no. 1, (January 1989): 22

²⁸ Guy L. Siebold, "The Essence of Military Group Cohesion," *Armed Forces & Society* 33, Issue 2 (July 2016): 286-7.

morale is, the stronger its cohesion tends to be; conversely, as morale wanes, so too does cohesion.

For military units, cohesion can be further refined in terms of the proximity and quantity of daily or weekly habitual relationships that develop among members of the group. Dr. Guy Siebold of the U.S. Army Research Institute for the Behavioral and Social Sciences summarized a framework to describe military cohesion based on decades of research. This framework describes cohesion as two basic levels: primary and secondary. Primary group cohesion develops from direct, daily interactions among the individuals of a group who “know each other not just by name, face, and role but as individuals with a history, personality, and attributes beyond those of the position they occupy.”²⁹ Seibold breaks down secondary group cohesion in terms of organizational bonding (that which takes place at the company and battalion level) and institutional bonding (service level institutional bonding).³⁰ If the unit is stable over time, primary cohesion extends into the immediate secondary group and even into the brigade level.³¹ This analysis focuses mainly on the primary level of cohesion, but posits the expansion of primary cohesion out to the squadron level.

In the USAF, the individual does not choose their unit. Rather, Airmen are assigned to a unit. From the moment of arrival, the members of the unit indoctrinate the new Airman into the group and primary group cohesion develops. Typically, the Airman adopts the values, norms, and identity of the unit. A characteristic of primary group cohesion is the relatively closed network of relationships.³² This network essentially

²⁹ Seibold, “Cohesion,” 289.

³⁰ Ibid., 289.

³¹ Ibid., 289.

³² Ibid., 289.

defines the edge of the cohesive group. When two or more groups exist in proximity, interactions between these groups can produce varied outcomes.

In-group Bias/Out-Group Derogation

When proximate groups interact, another group dynamics phenomenon emerges involving the relationships between these groups. Just as an individual is subject to biases, a group of individuals tends to develop in-group biases. In-group bias describes the tendency for individuals to favor their in-group. Examples of this behavior are quite common as organizations “circle the wagons” to defend their own members. For example, police officers often refer to themselves as the thin blue line separating order from chaos and the enormous bonds between them are reflected in pop culture. Unsurprisingly, members of one group will tend to favor their own group over a distinct other out-group.³³ Moreover, when adversity occurs, individuals tend to emphasize errors made by the out-group and minimize those of the in-group, a phenomenon known as in-group bias and out-group derogation.³⁴

Although there has been much psychological research in the field of group cohesion, the idea of unit cohesion and the importance of teamwork and “chemistry” is not new. Military theorists from Sun Tzu to Karl von Clausewitz discussed the importance of moral influence, of the people being in harmony with their leaders, and the decisiveness of cohesion in battle.³⁵ Given this acceptance of the importance of unit

³³ J.C. Turner, "Social Comparison and Social Identity: Some Prospects for Intergroup Behavior," *European Journal of Social Psychology* 5 (1975): 29.

³⁴ Ibid.

³⁵ Sun Tzu, *The Art of War*, trans. Samuel B. Griffith (Oxford University Press: London, 1963) 64. Karl von Clausewitz, *On War*, trans. and ed. Michael Howard and Peter Paret (Everyman's Library: New York, 1993) 218-221.

cohesion, it is disturbing that neither cohesion nor the concepts of group formation or in-group bias/out-group derogation appear anywhere in the USAF three core volumes of doctrine.³⁶ In fact, doctrinally, the term first appears in the operations and planning annex, albeit in a vignette discussing the direct and indirect effects that the destruction of a C2 vehicle has on the cohesion of an enemy force.³⁷ The phrase “unit cohesion” is used repeatedly in AFIs dealing with command, culture, and discipline, however, each regulation addresses it as something to be maintained without ever defining it.³⁸ Interestingly, “cohesion” is conspicuously absent from the organizational and manpower regulations.³⁹ Applying unit cohesion principles to the structure of the USAF is long overdue; leadership can correct every culture and climate issue a unit has, but if the structure hinders cohesion, USAF leaders will never solve the morale problem.

Methodology

This thesis utilized a case study analysis that describes the general process of group formation and identity cohesion for the USAF from a civilian (non-group member) to trained airman at the unit level (primary cohesion). Examination of the USAF organizational structure and composition below the wing level uncovered how cohesion develops in general at the unit level and how it develops in relation to the operational

³⁶ U.S. Department of the Air Force, *Air Force Basic Doctrine Volume 1*, February 27, 2015; U.S. Department of the Air Force, *Air Force Basic Doctrine Volume 2*, August 8, 2015; U.S. Department of the Air Force, *Air Force Basic Doctrine Volume 3*, November 22, 2016.

³⁷ U.S. Department of the Air Force, “Air Force Doctrine Annex 3-0 Operations and Planning,” *AFDD Annex 3-0* (Department of the Air Force: Washington D.C.) November 4, 2016.

³⁸ U.S. Department of the Air Force, *AFI 1-1: Air Force Culture*, August 7, 2012; U.S. Department of the Air Force, *AFI 1-2: Commander’s Responsibilities*, May 8, 2014; Department of the Air Force, *AFI 36-2909: Unprofessional Relationships*, May 1, 1999, AFGM 17-01 March 13, 2017.

³⁹ U.S. Department of the Air Force, *AFI 38-101: Air Force Organization*, January 31, 2017; U.S. Department of the Air Force, *AFI 38-204: Programming USAF Manpower*, April 21, 2015.

mission (proximity). Using these group boundaries, the analysis then identifies and describes friction points (areas of in-group bias/out-group derogation) among functions. Finally, examination of the friction points suggests adjustments to the organizational structures below the wing level.

Chapter 3—Analysis

The process of group formation in the USAF begins at either Basic Military Training (BMT), for enlisted personnel, or, for officers, at the U.S. Air Force Academy, other service academies, Air Force Reserve Officer Training Corps, or Officer Training School, and continues throughout the training pipeline. These programs immerse the individual in military culture, values, customs, and traditions; it introduces basic concepts of airmanship, the law of armed conflict, ethics, and resiliency; and it provides training in weapons use and care, drill, and how to use various AF services. Since the primary interaction of trainees occurs between the members of their assigned flight, some primary cohesion develops as a result of their shared experiences (e.g., challenges, successes, and failures) and their developing shared values ingrained as part of the program. Although some cohesion exists by the end of the program, once the graduates depart for specialized training, this cohesion fades and only service-level cohesion remains. This first step in the process of group formation is critical, however, because it provides the foundational service-level cohesion upon which later steps in the process build.

After initial training, the airman continues to the next step which is to train in their designated career field or Air Force Specialty Code (AFSC). These AFSCs fall into one of seven broad categories: operations, maintenance and logistics, support, acquisitions, medical and dental, and legal & chaplain, finance and contracting, and special investigations. Excluding special duty and special status AFSCs, the USAF has 221 distinct officer and enlisted career field specialties.¹ As Airmen attain the basic skills

¹ U.S. Department of the Air Force, “Enlisted AFSC Classifications,” AF.mil, <http://www.af.mil/About-Us/Fact-Sheets/Display/Article/104609/enlisted-afsc-classifications/> (accessed November 23, 2017). U.S. Department of the Air Force, “Officer AFSC Classifications,” AF.mil, <http://www.af.mil/About-Us/Fact-Sheets/Display/Article/104484/officer-afsc-classifications/> (accessed November 23, 2017). Special duty AFSCs are assigned to individuals serving as recruiters, military training instructors, commanders,

to perform their career field function, they are simultaneously socialized into their respective functional communities. Although the many functional communities share commonalities, which is part of the larger USAF culture, they also have distinct values and priorities based on the functions they perform. Thus, these distinct training pipelines reflect the cohesion that develops within functional communities. Similar to BMT and the accession sources, the primary cohesion between students in training, which develops through daily habitual relationships built around shared purpose, fades upon graduation. The remaining service-level cohesion is now refined and focused on the functional community in which the Airman now exists. Some training pipelines are longer than others are, but ultimately, once the students graduate, the USAF sends the Airman to the line unit, typically a squadron, where group formation is strongest and primary cohesion develops.²

In terms of group dynamics, the USAF squadron represents the epitome of group formation. A squadron has very distinct boundaries (a distinct designation delineating members and non-members), a distinct mission (purpose), a distinct vision (priorities and values), and a distinct culture and climate. While it may take time for a newcomer to become acquainted with everyone in the squadron, members of a squadron develop strong primary cohesion due to habitual daily interactions and relationships. Many squadrons have extensive family support networks that extend the cohesion to members' families. This bond of shared purpose, values, and trust form the core of unit identity and

students, etc. Special status AFSCs are assigned to individuals in a certain temporary status including students, patients, and prisoners.

² Although this is the path for the majority of Airmen, there are a few exceptional circumstances in which an Airman may find oneself assigned to a wing-level or higher organization due to the needs of the particular unit. That is not to say primary cohesion does not occur for these Airmen, but since it is rare and it occurs above the wing level, it lies beyond the scope of this thesis.

cohesion. However, in order to understand the role unit cohesion plays as it relates to organizational structure, it is important to understand how the squadron fits into the overall operational mission starting with the wing's structure.

USAF Organizational Structure

Shortly after the collapse of the Soviet Union, political pressure built within the U.S. Congress to reap the windfall of the peace dividend. With no looming nemesis, the U.S. defense budget decreased across the Services along with respective end strengths. From 1991 to 2014, the USAF reduced end strength approximately 36%, despite a slight uptick during Operations ENDURING FREEDOM and IRAQI FREEDOM, to become the smallest it has been in its history.³

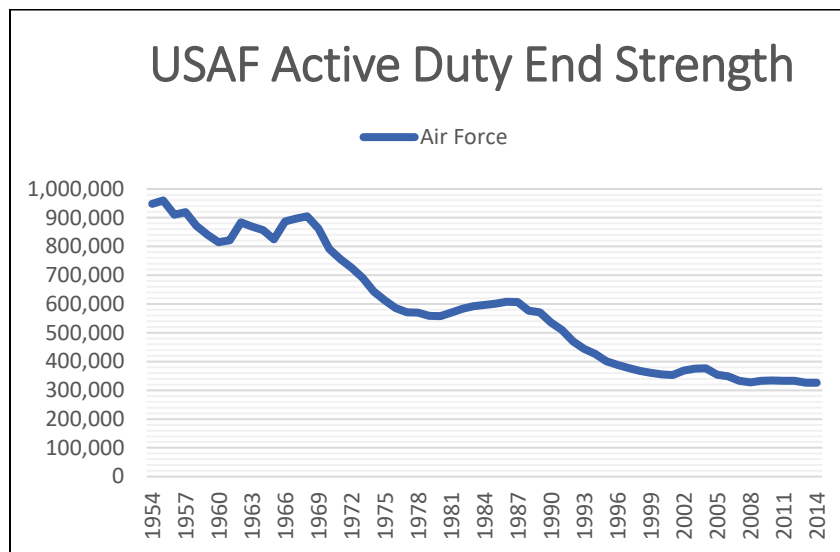


Figure 3-1. USAF Active Duty End Strength.⁴

³ David Coleman, "U.S. Military Personnel 1954-2014," History in Pieces, Data sourced from the Defense Manpower Data Center, Office of the Secretary of Defense, U.S. Department of Defense, <http://historyinpieces.com/research/us-military-personnel-1954-2014#fn-5821-fn1> (accessed October 11, 2017).

⁴ Ibid. Data sourced from the Defense Manpower Data Center, Office of the Secretary of Defense, U.S. Department of Defense.

Competition among the Services over dwindling resources created a pervasive drive to improve efficiency and do more with less. These conditions ultimately drove organizational decisions that fundamentally changed the structures of the USAF squadron, its basic warfighting unit. As a result, current USAF structure and manning is no longer organized around the application of air power using the squadron as the basic warfighting unit; rather, one must look to the group or wing level structure, two echelons higher, in order to find all the mission and mission support elements required for the application of airpower.

The USAF organizational structure has evolved over time into functionally-oriented stovepipes. In fact, *Air Force Instruction (AFI) 38-101: Air Force Organization* explicitly declares USAF intent to organize functionally as part of its “Organizing Principles”:

Functional Grouping. Organizations have these characteristics: a clear-cut purpose, goal and scope, with one individual in charge; parts that form a logical, separable activity; a close relationship among the parts, constituting a complete entity; and natural divisions of work that clearly define where responsibility begins and ends.⁵

Furthermore, this AFI describes the wing as the lowest echelon having a distinct mission. The squadron, largely held as the basic warfighting unit of the USAF, is a “building block . . . providing a specific operational or support capability.”⁶ By this direction, the USAF implicitly espouses an industrial age, reductionist approach to delivering airpower. In other words, the sub-wing structure consists of various “assembly lines” (groups of squadrons) that deliver a capability, aggregated at the wing level, to accomplish its distinct operational mission.

⁵ U.S. Air Force, *Air Force Organization*, 15.

⁶ *Ibid.*, 16.

Table 3-1 displays the breakdown of a standard sub-wing level organizational structure, with each squadron's corresponding functional contributions. Understanding the connection of unit cohesion to the operational mission (in this example, airlift), requires the application of the principle of proximity. The first case study analyzes cohesion from the squadron-level perspective in terms of proximity to mission and in-group bias/out-group derogation.

| Standard Sub-Wing Structures (Airlift) | |
|---|---|
| XX Operations Group | |
| Units | Functional Contribution |
| XX Airlift Squadron | Trained, Ready Crews |
| XX Airlift Squadron | Trained, Ready Crews |
| XX Operations Support Squadron | Mission Capable Airfield & Airspace Mission & Intel Support |
| XX Maintenance Group | |
| Units | Functional Contribution |
| XX Aircraft Maintenance Squadron | Mission Capable Aircraft |
| XX Maintenance Operations Squadron | Mission Capable Ground Equipment |
| XX Mission Support Group | |
| Units | Functional Contribution |
| XX Civil Engineering Squadron | Mission Capable Facilities & Infrastructure |
| XX Communications Squadron | Cyber Support |
| XX Contracting Squadron | Contract Training, Management, and Oversight |
| XX Force Support Squadron | Personnel Management, Education Services, Manpower, Dining Facilities |
| XX Logistics Readiness Squadron | Supply & Distribution Management |
| XX Security Forces Squadron | Integrated Installation Defense |
| XX Medical Group | |
| Units | Functional Contribution |
| XX Aerospace Medicine Squadron | Aerospace Medical, Dental, & Optometry Support |
| XX Medical Support Squadron | Medical Support & Ancillary Services |
| XX Medical Operations Squadron | Primary Care, Mental Health, & Preventative Health Services |

Table 3-1. Standard Sub-Wing Structures (Airlift Wing).

Squadron-Level Cohesion and Proximity to Mission

Table 3-1 shows a standard airlift wing structure organized functionally by groups and squadrons. For a basic flying installation, there are at least three distinct operations: executing the operational flying mission(s), operating the airfield (operating and managing the runways, taxiways, ramps, and airspace), and operating the installation

(facilities and infrastructure housing the forces required for these operations). The latter operations support the former in sequence. Although most installations have some level of medical support, the medical mission lies beyond the scope of this analysis.

First, this analysis examines the operational mission, for this example, airlift. The functional contribution of the operations squadron is a specific number of trained, ready crews. The number of crews required are a function of the number of aircraft and the associated crew ratios as determined by Headquarters Air Force staff in order to meet operational wartime requirements. For example, for an operations squadron designated for 12 primary assigned aircraft (PAA) and a crew ratio of 2.0, the required number of trained, ready crews would be 24, which, in addition to a small number of command overhead positions, becomes the manning requirement for the operations squadron.

The PAA for a squadron leads to a common misconception that the aircraft belong to the squadron; however, this is not the case. The maintenance group actually possesses and manages them, only temporarily signing them over to aircraft commanders for the duration of a mission. Essentially, the operations squadrons manage aircrew readiness while the maintenance group manages the aircraft fleet readiness. Within this operations and maintenance relationship, the formation and development of primary (squadron level) cohesion centers on their functional contributions: crew readiness and aircraft readiness.

Based on the separation of functions between maintenance, operations, and operational support squadrons, the airlift mission is not executed at the squadron level nor at the group level; rather, the individual squadron and group functional components of the airlift mission aggregate at the wing level for execution. Thus, primary cohesion develops

centered on the function rather than the mission with secondary cohesion (group level) forming along functional lines as well. Group dynamics principles suggest centering primary and secondary cohesion on function rather than mission has significant negative consequences to trust, cooperation, and teamwork considering the impact of in-group bias/out-group derogation.

From a proximity to mission standpoint, primary cohesion occurs two echelons removed from the operational mission. As discussed in Chapter 2, an individual's proximity to an activity corresponds to the level of pride one feels in its accomplishment. As noted, due to the functional organizational of the USAF, the mission occurs at the wing level while those in the operations and maintenance squadrons physically conducting the flying activities are two echelons removed from it. This disconnection between the center of primary cohesion (their functional contribution) and their mission diminishes the relationship between their sense of purpose and mission success. Table 3-2 summarizes the proximity of each units' center of cohesion to the airlift mission.

| Standard Sub-Wing Structures (Airlift Ops and Maintenance Only) | | |
|--|--|---|
| XX Operations Group | | |
| Units | Functional Contribution | Displacement from Mission |
| XX Airlift Squadron | Trained, Ready Crews | - 2 Echelons |
| XX Airlift Squadron | Trained, Ready Crews | - 2 Echelons |
| XX Operations Support Squadron | Mission Capable Airfield & Airspace Mission & Intel Support | - Collocated (3 Echelons from operational mission) |
| XX Maintenance Group | | |
| Units | Functional Contribution | Displacement from Mission |
| XX Aircraft Maintenance Squadron | Mission Capable Aircraft | - 2 Echelons |
| XX Maintenance Operations Squadron | Mission Capable Ground Equipment | - 3 Echelons (1 echelon to supported unit, 2 echelons to mission) |

Table 3-2. Displacement Between the Unit's Center of Cohesion and Mission.

For the operations support squadron (OSS), there is little disconnection between the center of primary cohesion and purpose. In addition to various intelligence and

mission support functional contributions, the OSS contains the organizations responsible for operating and managing the airfield (runways, taxiways, ramps, and airspace).

Although one could argue operating the airfield is a functional contribution to the wing's airlift mission, this analysis considers the airfield as a distinct operational system since any aircraft could operate from it, not just the wing's assigned aircraft (assuming the airfield is suitable and aircraft performance allows). Thus, operating an airfield, while it enables the wing-assigned mission, also enables other airpower missions and can stand alone as a distinct operational mission. The center of primary cohesion for airfield operations is collocated with its mission execution, an ideal situation from a proximity perspective.

However, there is still a displacement from the operational flying mission. If one considers that the OSS capability is actually a service provided to support the operational flying mission, the displacement is more correctly determined to be three echelons: one echelon to the supported units, then two more from their aggregated mission.

For the mission support squadrons, the disconnection between the center of primary cohesion and their purpose differ greatly from the operations and maintenance squadrons. All of the mission support squadrons provide a holistic functional contribution rather than a component aggregated at a higher echelon. For example, the center of primary cohesion for the security forces squadron, integrated installation defense, is collocated with its mission, installation security. This represents optimal proximity between primary cohesion and purpose. Likewise, the force support squadron (FSS) conducts a vast array of activities supporting installation-assigned personnel as well as dependents and retirees in the local area including human resources and personnel

activities (assignments, promotions, and decorations processing), operating fitness and dining facilities, and managing morale, welfare, and recreation (MWR) activities and equipment. The activities of the mission support squadrons produce a distinct, complete capability rather than requiring an aggregation of activities, like operations and maintenance, to produce an effect. That is not to say there is no disconnection or displacement for the mission support squadrons. Rather, the disconnection is quite vast considering the echelons between the mission of operating the installation and the operational flying mission. Many in the mission support squadrons spend an entire assignment at an installation and never connect to the operational flying mission in any direct way. According to group dynamics, the implications of this disconnection are manifested by the resulting in-group bias and out-group derogation.

Overall, from a proximity perspective, there are significant displacements between the center of cohesion of units and the mission. Even among operations and maintenance squadrons, the best proximity that exists is two echelons of displacement. This displacement is magnified in the squadrons comprising the mission support group. The next line of analysis examines the wing structure and group boundaries in terms of in-group bias and out-group derogation.

In-Group Bias and Out-Group Derogation

Figure 3-2 conceptualizes the operations group and maintenance group and their subordinate squadrons as distinct cylinders representing the boundaries of primary (dark blue, squadron-level) and secondary (light blue, group-level) cohesion. These boundaries are more than simply organizational constructs; they define the boundaries within which

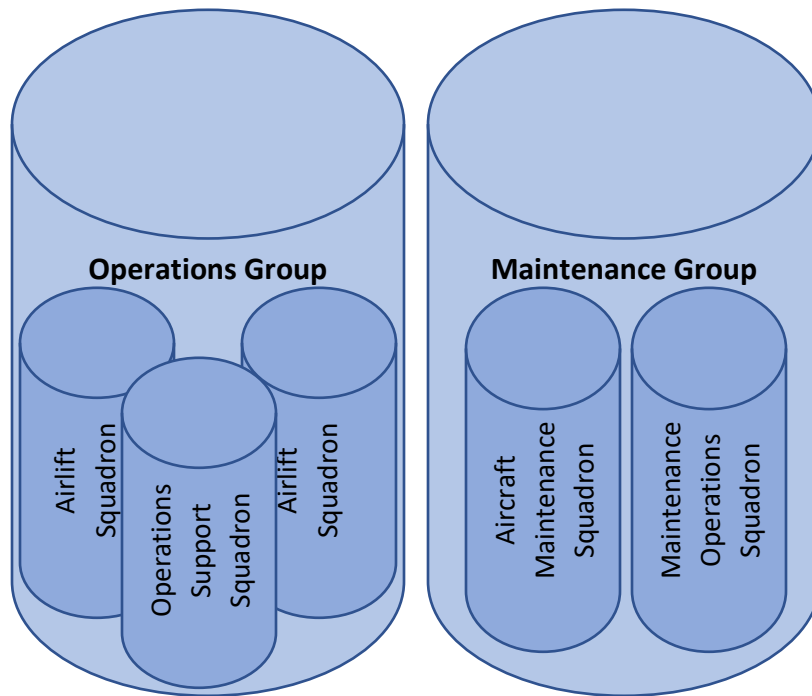


Figure 3-2. Primary and Secondary Cohesion = In-Group Boundaries

group identity coalesces. Since squadrons have a unique heritage and legacy, each evoking a unique level of unit pride, as well as unique commanders each with distinct leadership styles, the corresponding climate and culture for each squadron is distinct. Furthermore, these boundaries delineate clear distinctions between “us” and “them,” reinforced by the daily, habitual relationships of the members of the unit. Additionally, these boundaries also limit the extension of trust beyond the members of the squadron. Although there are many daily contacts between the members of one squadron and those of others, these interactions, while not always overtly adversarial, are conducted from a biased frame of reference favoring one’s own in-group. The resulting interactions are transactional in nature with the owner of the required capability in a position of power over the requestor. The natural focus of the units is on their transactions, not the mission

itself. This transaction-centric relationship makes maintaining a mission-focused force the common leadership challenge. Conversely, in a mission-centered unit, one which organically contains the essential mission components, these transactions take place within the primary cohesive group; thus, the natural focus is not the transaction, but on the mission, which removes the continuous requirement to emphasize it. From an operations and maintenance standpoint, this creates a shared stake in balancing aircrew and aircraft readiness rather than a tension to be resolved.

Application of this group bias to the functional contribution framework established by the USAF makes the friction points manifest. Referencing the operations and maintenance relationships in Figure 3-2 and the functional contributions from Table 3-1, no single squadron can claim ownership of airlift mission success. A squadron is only accountable for their functional contribution to mission success. Therefore, not only can a squadron succeed while the overall mission fails, out-group derogation will drive squadron members to emphasize the shortfalls of other squadrons while minimizing their own. Thus, even when the overall mission is succeeding, the natural state of the relationship between squadrons is adversarial, and, at worst, characterized by mistrust of the other and self-righteous conceit of their own. It is indeed a leadership challenge for commanders to move their squadrons away from this resting state of mistrust by actively building trust and nurturing positive relationships between squadrons. An alternative structure could mitigate the effects of the relationship between operations and maintenance. However, it is important to examine the effects of in-group bias and out-group derogation on the relationship between the mission support squadrons and the squadrons they support.

Since the mission support squadrons are not only providers of support, but are also consumers of each other's support, the effects of in-group bias and out-group derogation will be similar across the squadrons. For this reason, the analysis encompasses the relationships across the various groups.

As previously noted, the mission support squadrons provide services that enable the installation to operate, which, in turn, enables execution of the operational flying missions. The squadrons, which provide a service to members, function through transactions. The member requires some quantity of support, requests it from the servicing unit, and the servicing unit provides the quantity of support completing the transaction.

Customer service in a market economy works on the premise that there are numerous service providers from which to choose, each one competing for the customers' business. However, this model breaks down in the USAF where there is only one service provider with no natural incentive for the provider to improve its product. Primary cohesion and in-group bias implies units will tend to focus inward, toward the focus of their cohesion, which is their own functional contribution. The metrics of success center on their functional contribution, often independent from the success of the operational mission. As a result, the customer service relationship effectively divorces the success of the service-provider in-group from the success of the supported units, in this example, those executing the operational flying mission. The supporting unit has no natural stake in their customers' success, except the fear of repercussions from higher echelons. Compounding this relationship is the out-group derogation that drives the service provider to resent the workload-inducing demands of the service-requester.

Similar to the trust built by an in-group's daily habitual relationships, out-group derogation drives the customer to emphasize the shortcomings of the service providers. Again, it is a leadership challenge to counter these in-group biases and motivate service provider organizations to improve their services while attempting to reinforce tenuous linkages between the supporting unit and the success of the operational mission.

For example, each squadron has a requirement for almost every function represented in the mission support group in order to function effectively; this includes personnel, communications, and logistics. That is not to say there is no need for these functions at the wing level; indeed, there are distinct requirements at both levels.⁷ Ideally, each squadron would include these functions enabling it to be a stand-alone unit, eliminating the transactional relationship.

In such a transactional relationship, where there is no natural motivator for the service-provider to improve service, friction and tension naturally develops between the consumer and producer. Moreover, since the success of every unit relies on the support of the service-provider, an interesting inversion of relationships occur. The supported units actually could end up competing for the support of the service-provider. Leaders of consumer units can broker agreements to expedite transactions that benefit both organizations as long as the consumer unit also has a service to offer in return. Since the operations and maintenance squadrons do not produce a service to the installation, there is no possibility of exchange and, thus, no bargaining position to gain better service.

While no survey data exists to provide evidence of this, this author has anecdotal evidence gained from seven assignments, across three major commands, four

⁷ Civil engineering, contracting, and security forces represent the capabilities required to operate an installation effectively; the author considers this a distinct operational mission.

installations, and nine deployments to back this claim. The only exceptions to the numerous adversarial relationships were born from continuous active nurturing of squadron relationships between squadron leaders at the expense of focusing on their respective missions.

These customer service relationships are the direct result of the industrial age, functionally-oriented sub wing-level structures. The in-group forms based on the structural unit boundaries; because the structure reflects functional orientation rather than mission orientation, the unit's cohesion centers on the unit's functional contribution rather than operational mission. The USAF has built tension and friction into the structure. Referencing Fussell's description of high morale being "confident, aggressive, resolute, often buoyant, spirit of whole-hearted cooperation in a common effort," the morale problem in the USAF, in part, arises from the divisions due to primary cohesion being centered on function over mission, individuals' proximity to mission often being at least two echelons removed, and relationships built around transactions.⁸ These are the core of the USAF morale problem. Now that the source of the underlying morale problem is exposed, analysis can turn toward examination of potential solutions.

⁸ Fussell, *Wartime*, 144.

Chapter 4—Discussion

The application of group dynamics psychology to the USAF sub-wing structure exposed disconnects between units' activities and the operational flying mission as well as sources of friction and tension between squadrons due to their functional orientation. Each of these concerns suggest solutions. First, this analysis will address how to mitigate the proximity problem through realignment of responsibilities at the squadron level. Second, this analysis will address ways to mitigate the in-group bias/out-group derogation problems between functional units.

Establishing Mission-Oriented Cohesion

Chapter 3 demonstrated how the USAF sub wing-level structure reflects functional orientation driving unit cohesion that is centered on its functional contribution. Moreover, it showed the displacement between the center of the unit's cohesion and the

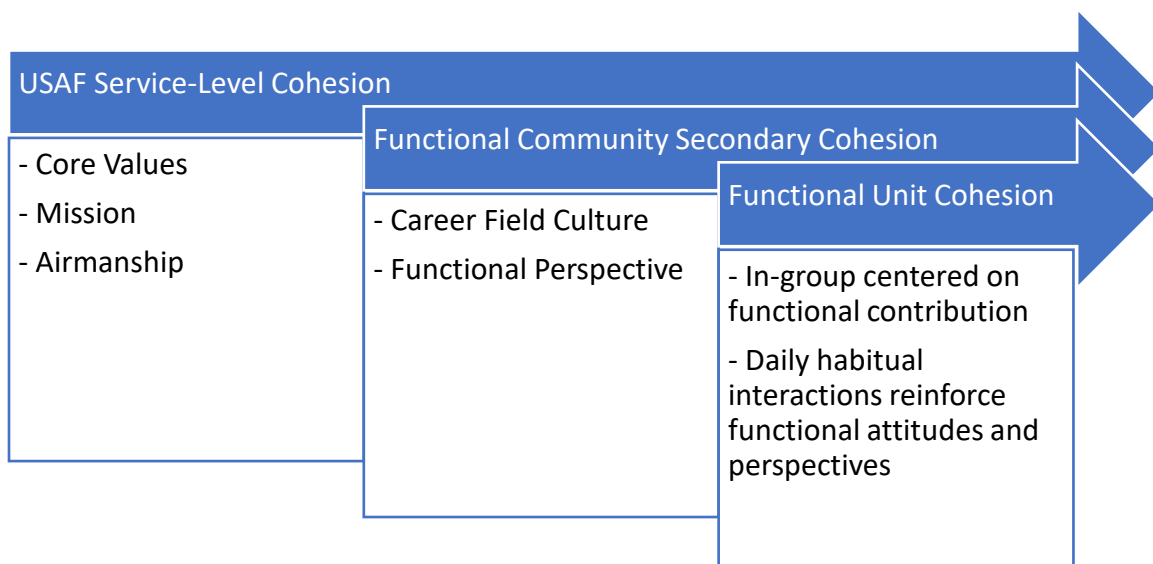


Figure 4-1. Status Quo Group Formation and Cohesion Orientation

operational mission for operations and maintenance squadrons. The solution is to realign the center of unit cohesion from a functional orientation to a mission orientation.

Figure 4-1 shows the current group formation and cohesion development for the USAF. Cohesion centers on the function because the wing structure demands it. The first step in realigning unit cohesion is to aggregate the operational mission at the squadron level. By combining operators and aircraft maintainers into one unit, cohesion would now center on the airlift mission rather than on functional contributions. This eliminates the displacement between the center of cohesion and the operational mission, strengthening the unit members' sense of purpose and pride in mission success. Additionally, this consolidation eliminates group boundaries along functional lines, which enables more daily, habitual interactions and builds mutual understanding and trust across functions.

An integrated operations and maintenance squadron is not a new concept. In fact the USAF has undergone several periods of centralization and decentralization of maintenance functions. Long before the establishment of the USAF, combat aviation units during World War I and World War II contained not only flyers, but also a mix maintenance personnel oriented to sortie production.¹ The release of Air Force Manual 66-1 in 1956 centralized maintenance for the first time. It placed the responsibility for aircraft maintenance under a sole chief of maintenance who reported directly to the wing commander.² This changed during the Vietnam conflict as flightline maintenance returned to the operations squadrons.³ After Vietnam, fiscal constraints and downsizing

¹ Kristin F. Lynch, John G. Drew, David George, Robert S. Tripp, C. Robert Roll, Jr., and James Leftwich, "The Air Force Chief of Staff Logistics Review: Improving Wing-Level Logistics," RAND Project Air Force (2005) 148-155.

² Ibid., 158.

³ Ibid., 161.

reversed the decentralization of maintenance as MAJCOM commanders sought new efficiencies.⁴ The late 1970's, saw a resurgence of operations-oriented maintenance when General Creech released TAC Regulation 66-5, which instituted Combat Oriented Maintenance Operations (COMO) empowering maintenance squadrons with aircraft scheduling, debriefing, and analysis.⁵ The next major shift in maintenance structure occurred during the 1990's under then CSAF General Merrill McPeak. He directed a shift to the "Objective Wing," which, among other changes, placed flyers and flightline maintenance personnel under the flying squadron commander while placing the maintenance back-shop personnel within the Logistics Group; however, some MAJCOMs had approved waivers to the Objective Wing organizational structure that enabled their Logistics Groups to retain all maintenance responsibilities.⁶

In the late 1990's, the new CSAF General Michael Ryan directed a logistics review after USAFE commander General John Jumper raised concerns over what some saw as the sacrifice of long-term fleet health to meet the near-term sortie production rates.⁷ Among the recommendations of this study were the following:

1. Align sortie production functions under the operations group and fleet health under the logistics group
2. Develop and enforce policy for current versus future readiness tradeoff analysis
3. Improve officer (logistics and rated) maintenance training⁸

⁴ Lynch, "Logistics Review," 164.

⁵ Ibid., 166-167.

⁶ Ibid., 170.

⁷ Ibid., xviii. USAFE is United States Air Forces Europe.

⁸ Ibid., xviii.

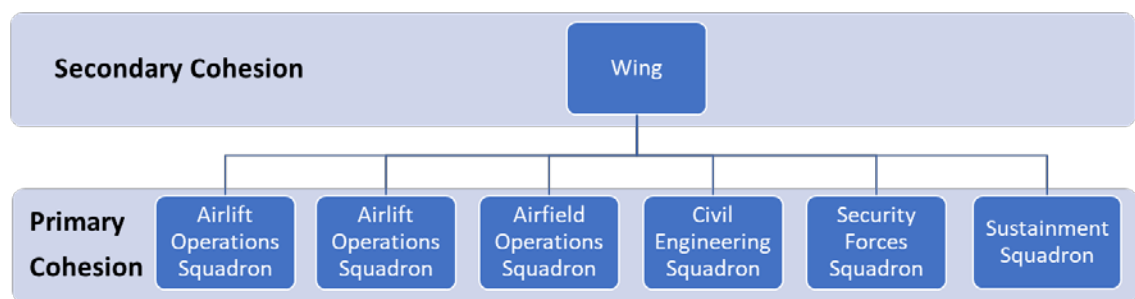
As recently as 2002, ops and maintenance personnel regularly deployed in support of expeditionary or contingency operations as an integrated unit under the flying squadron commander. Either by accident or design, the late 1990's through early 2000's wartime deployment constructs enhanced mission-oriented cohesion. As expeditionary operations gave way to more persistent operations, increased operations tempos drove the need for more efficiencies in maintenance manpower; as a result, the consolidation and centralization of maintenance reemerged along with mission aggregation at the wing level.

In addition to combining ops and maintenance, establishing mission-oriented cohesion requires broad, cross-functional integration at the squadron level. Indeed, engineering the daily, habitual interactions that build mutual understanding and trust between functional communities requires the embedding of mission support personnel (personnel, communications, and logistics) within the operational squadron. This is also not a new concept, nor is it without parallel in sister services.

Up until the late 1990's, each squadron included an organic personnel section. Although, squadron manning in terms of mission support personnel has never been sufficient, shrinking budgets forced wings to assume risk by cutting manning and consolidating support functions across the wing in order to do more with less. These pressures stripped squadrons of staff overhead required for day-to-day squadron operations. An airlift flying squadron commander has a pool of officers and enlisted personnel from which to form an ad hoc staff (e.g., Executive Officer, A1-Personnel, A2-Intelligence, A3-Operations, A4-Logistics, A5-Plans, A6-Communications, etc.). These staff positions are filled out of unit manning by flyers, not functional experts, based on

the crew ratio for the assigned aircraft. Since these flyers generally fly up to three or four times a week to maintain currency and training upgrade timelines, continuity usually requires more than one individual for a function. Unsurprisingly, squadron commanders often forgo many traditional functions in order to maintain trained, ready aircrew.⁹

In contrast, a typical US Army battalion includes a commander, a chief of staff (executive officer), a full S-1 through S-9 coordinating staff, and a special staff that may include a chaplain, a historian, a safety officer, and/or a surgeon.¹⁰ The functional experts provide crucial mission support to the battalion commander and the members of the battalion. For example, while a USAF squadron may have a single individual providing personnel support, the battalion S-1 consists of a Personnel Readiness Team (PR TM), a Human Resources (HR) services team, and a leadership element which supervises them.¹¹ It is by exception that the battalion commander appoints an officer to perform a special staff function as an additional duty. This also builds shared purpose and strengthens mission-centric primary cohesion. Figure 4-2 shows what this might look like for a USAF wing with the group echelon removed and mission-oriented squadrons



created.

⁹ None of the six squadrons in which the author has served had a full support staff as described, nor did any of the 23 peer squadrons at the time. Each squadron commander addressed their specific support requirements according to their risk determinations.

¹⁰ U.S. Department of the Army, *FM 6-0: Commander and Staff Organization and Functions*, May 2014, 2-6. Note: Most battalions and brigades do not have plans (S-5) or financial management (S-8) staff sections.

¹¹ U.S. Department of the Army, *ATP 1-0.1: G-1/AG and S-1 Operations*, March 2015.

Figure 4-2. Proposed Wing Structure showing the elimination of the group command echelon. Note that although this structure eliminates the group command echelon, the net manpower savings is limited since the guidance and oversight functions formerly accomplished at the group level would move to the wing. Figure 4-3 shows the alternative path for group formation with primary cohesion centered on the operational mission implied by the structural change in Figure 4-2.

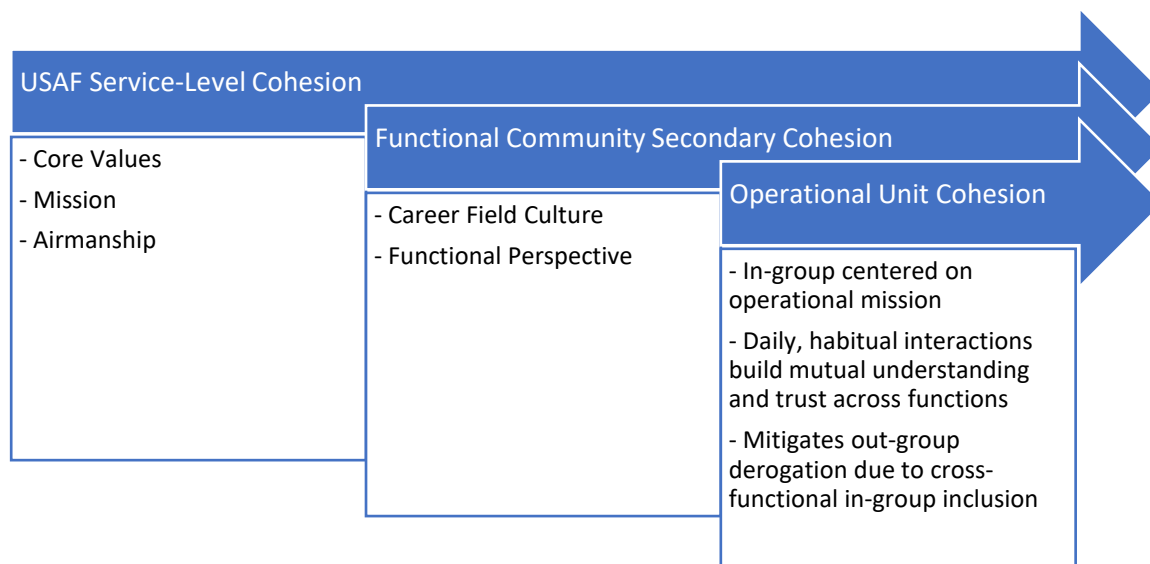


Figure 4-3. Proposed Mission-Oriented Group Formation and Primary Cohesion.

Additional Benefits of Integrating Cross-Functional Personnel in the Squadron

Besides strengthening mission-centered primary cohesion and more effectively linking support functions to the operational mission, integrating cross-functional personnel in the squadron will also reduce the unnecessary tension between units by virtually eliminating the transactional nature of the supporting relationships. Each functional expert within the squadron has a shared stake in its success and provides what was once a transactional service as a matter of daily business. The mission support personnel are more closely connected to the operational mission, while the operators and

maintainers develop respect and understanding of mission support functions.

Furthermore, all squadron members develop career broadening experiences as a natural consequence of these daily, habitual interactions. Moreover, not only does the workload from additional duties decrease, addressing a key complaint from the 2015 survey, but the duties are more effectively accomplished since trained individuals are performing them.

Drawbacks

Ironically, many leaders tout the adversarial paradigm as healthy and even desirable. The tension between operations and maintenance squadrons is a way to ensure that the pressures of fleet readiness and aircrew readiness balance out, rather than sacrificing long-term fleet health in favor of short-term crew readiness. This criticism is not unfounded as short assignment cycles and poor success metrics drove operations squadron commanders to do just that resulting in Gen Ryan's review of wing-level logistics processes.¹² Nevertheless, the recommendations supported integrating flightline maintenance with the operations squadron.

One of the issues raised in Gen Ryan's logistics review concerned force development in the logistics career field. Under an integrated squadron construct, this concern would likely remain as a constant point of apprehension among non-flyers and non-maintainers. Indeed, there likely would always be a residual element of mistrust in that leaders might not treat all Airmen fairly, regardless of their functional community. One mitigating factor for this concern would be trust in the objectivity of the commander

¹² Lynch, "Logistics Review," 7-17, 94.

and the commander's openness to the inputs from the leaders of functional areas. From a broader perspective, the USAF would also need to establish a clear delineation between functional force development, which is driven by increasing one's technical expertise within a career field, and joint force development, which is driven by increasing knowledge and experience in joint warfighting. One is career depth, while the other is career broadening. Both can occur simultaneously in an integrated squadron if approached deliberately.

Another hazard of the integrated squadron is the potential of sub-unit cohesion developing along functional lines. Although good-natured, in-unit rivalry can promote unit cohesion, the development of sub-groups, or cliques, can be toxic to a squadron's culture. Combatting this tendency is a leadership challenge at all levels of the integrated squadron.

Undoubtedly, the main obstacle to this type of structural realignment is the net increase in required manpower. The proposed changes represent a possible increase of 25 to 35 additional personnel per squadron. Decisions to consolidate functions in order to create budget space for recapitalization and modernization are difficult to reverse, especially when there is no apparent mission failure to which one can point. It is arguable that the current pilot shortage places us at the cusp of mission failure, but the current population of Type A personalities might just as soon work themselves into the grave as to see mission failure. It is unknown how the incoming generation of warfighter will approach work-life balance; they may vote with their feet as well. Indeed, budget constraints is likely the greatest obstacle to establishing mission-oriented cohesion at the

squadron level, but measured against the cost of increasing bonuses, it may be a bargain in the long run.

Summary

In *Team of Teams*, General (Ret) Stanley McChrystal captured both the allure and the risks of efficiency using Frederick Winslow Taylor's scientific approach to industrial processes. General McChrystal recalled that although Taylor's approach enabled "*more, faster, with less,*" and worked well for "known, repeatable processes," it was insufficient for processes that required responsive, dynamic outputs.¹³ Furthermore, McChrystal applied John Nash's solution to the Prisoner's Dilemma in *A Beautiful Mind* to show individuals do not just act in self-interest, but also in the interest of the group.¹⁴ McChrystal used this key concept of group cohesion, built around trust among its members, to improve the effectiveness of his team even at the expense of efficiency, a lesson the USAF should heed.¹⁵

Without question, the USAF organizational changes were important innovations in terms of efficiency. A military personnel flight could now support an entire wing with a fraction of the manpower required previously, as was the case when each squadron had an intelligence flight, an AFE flight, and a commander's support staff. The unfortunate side-effects of these changes were a gradually increasing distance between the application of airpower and the support functions that enabled it. The question now is

¹³ Stanley McChrystal, *Team of Teams: New Rules of Engagement for a Complex World*, (New York: Penguin, 2015) 37, 52.

¹⁴ Ibid., 172-173. McChrystal recounts the bar scene in which Nash, when presented with a group of attractive women, posits that if all potential suitors competed for the attention of one, they undercut each other and all potential risk losing. He concludes that the only way to win is to cooperate. The solution to the Prisoner's Dilemma, to cooperate, is built on trust that the others will cooperate and act in good faith.

¹⁵ Ibid., 198.

whether USAF leaders are ready to forgo the efficiencies of consolidating functions in order to overcome the cost in retention.

Way forward

If the USAF wants to tackle the long-term solution to its acute retention problem, its first step is to recognize unit cohesion as a first principle of warfighting and incorporate it across the doctrine, organization, training, materiel, leadership, personnel, and facilities (DOTMLPF) enterprise. Second, risk decisions involving the consolidation of functional capabilities that divorces them from the warfighting mission must account for the risk to unit cohesion in a meaningful manner. Third, the USAF must preserve unit cohesion in force presentation constructs and contingency deployments. Fourth, there should be minimal distinctions between a squadron's garrison and wartime organizational structures. Finally, the USAF should export these concepts to the Joint Force, incorporating mission-oriented cohesion into contingency operations. This can be done by more effective alignment of exercise and contingency preparation, planning, execution, and after-action, lessons-learned development.

Using the proposed wing construct in Figure 4-2, the wing would require a net increase in approximately 200 personnel. The increase across the USAF could be 15,000-20,000 additional airmen or more for active duty alone. However, estimating the manning increase across the USAF would require an extensive examination of over 120 wings (and wing equivalents) and is beyond the scope of this analysis. This may seem like an untenable increase; however, if the CSAF achieves his stated desire to grow the USAF end strength from 321,000 to 350,000, sending 20,000 to the squadrons in order to transform the force into an operational-centric force is not impossible.

Chapter 5—Conclusion

Over the past 20 years, the USAF culture regressed into a condition of disconnection. The habitual relationships that once existed within the squadron, strengthened through daily interactions, and built around the mission of airpower, gradually deteriorated. The cohesive squadron comprised of various functional specialists dissolved only to be replaced by an organizational construct based on functional contributions rather than on a wartime, operational mission. In-group bias and out-group derogation drove the functionally stove-piped sub wing-level organizations into adversarial, transaction-based relationships whose unit missions centered on the functional output rather than the airpower mission. Furthermore, the consolidation of functions, while increasing efficiency, disconnected Airmen from the operational mission by creating a displacement between the center of unit cohesion and the operational mission.

Fortunately, the USAF's disconnection condition is reversible, but at a significant manpower cost. Indeed, realigning cohesion at the squadron level to be mission-oriented rather than functionally-oriented across the USAF faces two main obstacles: overturning the career field-centric (functional) status quo and building consensus around the importance of unit cohesion centered on the operational mission. The silver lining for this effort, however, may be timing. The CSAF's efforts to revitalize the squadron may be the catalyst for just such a transformation.

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